

## **Electrophoretically Deposited Hydrophilic Coatings for Fuel Cell Diffuser/Current Collector**

### **Abstract**

5           A method is provided for making a hydrophilic carbon fiber construction, such  
as a fuel cell gas diffusion layer or diffuser/current collector, by electrophoretic  
deposition of a metal oxide selected from Type I or Type II, where Type I consists of  
metal oxides having a negative zeta potential and Type II consists of metal oxides  
having a positive zeta potential. A hydrophilic carbon fiber construction is provided,  
10       such as a fuel cell gas diffusion layer or diffuser/current collector, which is coated with  
a metal oxide and capable of wicking 200mg of water per 40mg of the hydrophilic  
carbon fiber construction.